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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/079,840	02/19/2002	Scott A. Wellman	4082-000001	5458

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EXAMINER

BOYD, JENNIFER A

ART UNIT PAPER NUMBER

1771

DATE MAILED: 02/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/079,840

Applicant(s)

WELLMAN ET AL.

Examiner

Jennifer A Boyd

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 11-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 14-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. The Applicant's Amendments and Accompanying Remarks, filed October 21, 2004, have been entered and have been carefully considered. Claims 1 and 14 are amended and claims 1 – 10 and 14 - 20 are pending. In view of Applicant's Amendments, the Examiner withdraws all previously set forth rejections as detailed in paragraphs 6 – 11 of the previous Office Action dated July 28, 2003. However, after an updated search, additional prior art was found which renders the invention as currently claimed unpatentable for reasons herein below.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 and 14 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. Claims 2 – 10 and 14 – 20 are rejected as being dependent on rejected claims. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Contrary to Applicant's statement in paragraph 3 of page 9 of the present response, the phrases "at least one complete loop" and "circumscribing said periphery" are not supported in the Specification.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 5, and 9 - 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Christianson et al. (US 5,584,897).

Christianson is directed to a method for making an endless coated abrasive article (Title).

As to claim 1, Christianson teaches providing a backing sheet having two free ends and joining the two free ends together as a splice to form an endless backing sheet. Christianson teaches then applying fibrous reinforcing material onto a major surface of the endless backing sheet such as by winding at least one continuous fibrous strand in a plurality of revolutions around the endless backing sheet and securing with a binder (Abstract). In Figure 1, it is shown that the continuous fibrous strands 15 are completely contained within the binder 16 and is attached to the backing sheet 11 (column 8, lines 15 – 25). The Examiner equates the at least one continuous fibrous strand to Applicant's "plurality of continuous reinforcement fibers" and the binder to Applicant's "polymeric matrix".

As to claim 5, Christianson teaches that the backing sheet can comprise a woven cloth (column 7, lines 25 – 30).

As to claim 9, Christianson teaches that the continuous fibrous strands can comprise glass, carbon or aramid fibers (column 6, lines 60 – 65).

As to claim 10, it should be noted that according to Complete Textile Glossary by Celanese Acetate, yarn is a generic term for a continuous strand of textile fibers, filaments, or material in a form suitable for knitting, weaving, or otherwise intertwining to form a textile fabric. Yarn can occur in the form of a single filament with or without twist. Therefore, the continuous fibrous strands can be generically referred to as a yarn.

6. Claims 1 - 2, 6 - 8, 14 and 17 - 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Zurbuchen et al. (US 5,271,300).

Zurbuchen is directed to a composite hand tool (Title).

As to claims 1, 2 and 14, Zurbuchen teaches a fiber-reinforced plastic material including a core of random discontinuous glass fiber-reinforced plastic material and a band of unidirectional continuous glass fiber-reinforced plastic material extending around the periphery of the core (Abstract). Zurbuchen teaches that the core comprises chopped glass fiber reinforced vinyl ester material (column 4, lines 14 - 20). The Examiner equates one layer of the core to Applicant's "first surface having chopped fibers disposed thereon". Zurbuchen teaches that the band of unidirectional continuous glass fiber-reinforced plastic comprises vinyl ester material (column 4, lines 20 - 25). The Examiner equates the unidirectional continuous glass fibers to Applicant's "continuous reinforcement fibers".

As to claim 6, Zurbuchen teaches that the material is reinforced with vinyl ester (column 4, lines 14 - 25).

As to claims 7 - 8 and 17 - 18, Zurbuchen teaches that the core can be made from a plurality of layer of the random fiber-reinforced material (column 4, lines 50 - 55). Specifically,

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the material contains glass chopped fibers (column 4, lines 14 – 20). The Examiner equates one of the core layers to Applicant's "spanner".

***Claim Rejections - 35 USC § 103***

7. Claims 3 – 4 and 15 – 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zurbuchen et al. (US 5,271,300).

Zurbuchen discloses the claimed invention except for that 10 - 30% of the fibers are chopped fibers as required by claims 3 and 15 and that 20% of the fiber is chopped fiber as required by claims 4 and 16. It should be noted that the amount of chopped fiber is a result effective variable. For example, as the amount of chopped fiber increases, the impact resistance increases. It would have been obvious to one having ordinary skill in the art at the time the invention was made to create a laminate comprising 10 - 30% of the fibers as required by claims 3 and 15 and 20% by and that 20% of the fiber is chopped fiber as required by claims 4 and 16 since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). In the present invention, one would have been motivated to optimize the level of chopped fibers to create the appropriate level of impact resistance and other surface qualities.

8. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zurbuchen et al. (US 5,271,300) in view of Mechanical Engineer's Handbook.

Zurbuchen teaches a composite comprising a random discontinuous glass fiber-reinforced

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vinyl ester plastic material and a band of unidirectional continuous glass fiber-reinforced vinyl ester plastic material (Abstract) except fails to disclose specifically that the continuous glass yarn is e-glass as required by claim 19 and the random discontinuous glass fiber material is e-glass as required by claim 20.

Mechanical Engineer's Handbook teaches the use of composite materials in process industries equipment. It teaches that the most extensively used materials are PCMs consisting of vinyl ester resin reinforced with e-glass fiber. It teaches that the materials are relatively inexpensive, easily formed and have excellent corrosion resistance (Mechanical Engineers' Handbook, page 176, section 9.5.6.)

Since Zurbuchen is silent to the use of a specific glass for reinforcement, it would have been necessary and obvious for one of ordinary skill in the art practicing the invention of Zurbuchen to look to the prior art to provide the necessary details of suitable specific types of glass fibers to use in the Zurbuchen invention. As e-glass fiber reinforced composites are relatively inexpensive and the most extensively used reinforcement material, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use e-glass in the invention of Zurbuchen, motivated by the expectation of successfully practicing the invention of Zurbuchen.

### ***Response to Arguments***


9. Applicant's arguments with respect to claims 1 - 10 and 14 - 20 have been considered but are moot in view of the new ground(s) of rejection.

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*Conclusion*

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

  
TERREL MORRIS  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700

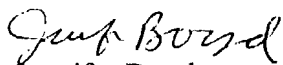


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A Boyd whose telephone number is 571-272-1473. The examiner can normally be reached on Monday thru Friday (8:30am - 6:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0994.

  
Jennifer Boyd  
January 21, 2004